

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 1. (Currently Amended) A computer implemented method for extracting information
2 from a database, which comprises a number of data tables containing values of a number of
3 variables, each data table consisting of at least one data record including at least two of said
4 values, said information being extracted by evaluation of at least one mathematical function
5 operating on one or more selected calculation variables, said extracted information being
6 partitioned on one or more selected classification variables, characterized by the steps of:
7 identifying all data tables containing at least one value of one of said selected
8 calculation or classification variables, such data tables being boundary tables;
9 identifying all data tables that, directly or indirectly, have variables in common with
10 said boundary tables and connect the same, such data tables being connecting tables;
11 electing a starting table among said boundary and connecting tables;
12 building a conversion structure that links values of each selected variable in said
13 boundary tables to corresponding values of one or more connecting variables in said starting
14 table; ~~and~~
15 evaluating said mathematical function for each data record of said starting table, by
16 using said conversion structure to convert each value of each connecting variable into at least
17 one value of at least one corresponding selected variable, ~~such that said evaluation yields ;~~
18 and
19 generating a final data structure based on said evaluation, said final data structure
20 containing a an extracted result of said mathematical function for every unique value of each
21 classification variable.

1 2. (Original) A method as set forth in claim 1, characterized by the further step of
2 presenting relevant parts of said resulting data structure to the user in human-readable form.

1 3. (Currently Amended) A method as set forth in claim 1 ~~or 2~~, characterized by the

2 further step of initially reading said data records of said database into the primary memory of
3 a computer.

1 4. (Previously Presented) A method as set forth in claim 1, characterized by the further
2 step of initially assigning a different binary code to each unique value of each data variable in
3 said database and storing the data records in binary-coded form.

1 5. (Previously Presented) A method as set forth in claim 1, characterized by the further
2 steps of initially identifying all data tables in said database that have variables in common,
3 and assigning virtual connections between such data tables, thereby creating a database with
4 a snowflake structure, wherein said connecting tables are located between said boundary
5 tables in said snowflake structure.

1 6. (Previously Presented) A method as set forth in claim 1, characterized by the further
2 steps of identifying all calculation variables for which the number of occurrences of each
3 value is necessary for correct evaluation of said mathematical function, defining a subset of
4 data tables consisting of boundary tables containing such variables and data tables connecting
5 such boundary tables, electing said starting table from said subset, and including data on said
6 number of occurrences of each value in said conversion structure.

1 7. (Previously Presented) A method as set forth in claim 1, characterized in that said
2 starting table is the data table among said boundary and connecting tables having the largest
3 number of data records.

1 8. (Previously Presented) A method as set forth in claim 1, characterized by the further
2 step of building said final data structure, which includes a number of data records, each of
3 which contains a field for each selected classification variable and an aggregation field for
4 said mathematical function, wherein said building step includes sequentially reading a data
5 record of said starting table, creating a current combination of values of said selected
6 variables by using said conversion structure to convert each value of each connecting

7 variable in said data record into a value of at least one corresponding selected variable,
8 evaluating said mathematical function for said current combination of values, and
9 aggregating the result of said evaluation in the appropriate aggregation field based on the
10 current value of each selected classification variable.

1 9. (Previously Presented) A method as set forth in claim 1, characterized by the further
2 step of creating a virtual data record containing a combination of values of said selected
3 variables, wherein said creating step includes reading a data record of said starting table and
4 using said conversion structure to convert each value of each connecting variable in said data
5 record into a value of at least one corresponding selected variable.

1 10. (Original) A method as set forth in claim 9, characterized by the further step of building
2 said final data structure which includes a number of data records, each of which contains a
3 field for each selected classification variable and an aggregation field for said mathematical
4 function, wherein said building step includes sequentially reading a data record of said
5 starting table, updating the content of said virtual data record based on the content of each
6 such data record, evaluating said mathematical function based on said updated virtual data
7 record, and aggregating the result of said evaluation in the appropriate aggregation field
8 based on the current value of each selected classification variable in said updated virtual data
9 record.

1 11. (Original) A method as set forth in claim 9, characterized by the further step of building
2 an intermediate data structure which includes a number of data records, each of which
3 contains a field for each selected classification variable and an aggregation field for each
4 mathematical expression implied by said mathematical function, wherein said building step
5 includes sequentially reading a data record of said starting table, updating the content of said
6 virtual data record based on the content of each such data record, evaluating each
7 mathematical expression based on said updated virtual data record, and aggregating the result
8 of said evaluation in an appropriate aggregation field based on the current value of each
9 selected classification variable in said updated virtual data record.

12. (Original) A method as set forth in claim 11, characterized in that said step of building said intermediate data structure includes:

eliminating one of said classification variables in said intermediate data structure by aggregating said results over all values of said one classification variable for each unique combination of values of remaining classification variables, by creating additional data records, and by incorporating said aggregated results in said additional data records of said intermediate data structure.

13. (Currently Amended) A method as set forth in claim 11 ~~or 12~~, characterized by the further step of evaluating said mathematical function based on said results in said aggregation fields for each unique combination of values of said classification variables, thereby building said final data structure.

14. (Currently Amended) A method as set forth in claim 1, characterized in that said step of building said conversion structure includes:

a) reading data records of a boundary table, and creating a conversion structure including a link between each unique value of at least one connecting variable in said boundary table and each corresponding value of at least one selected variable therein;

b) ~~moving from processing through~~ said boundary table towards said starting table;

c) if a connecting ~~table~~ table is found, reading a data records of said connecting table, and substituting each unique value of said at least one connecting variable in said conversion structure for at least one corresponding unique value of at least one connecting variable in said connecting table; and

d) repeating steps(b) - (c) until said starting table is found.

15. (Currently Amended) An article of manufacture comprising a computer readable medium having stored thereon a computer program for effecting the steps of a method for extracting information from a database as set forth in ~~any one of the preceding claims~~ claim 1.
